$$(a \pm b)^2 = a^2 \pm 2ab + b^2$$
$$(a \pm b)^3 = a^3 \pm 3a^2 b + 3ab^2 \pm b^3$$
$$a^2 - b^2 = (a-b)(a+b)$$
$$a^3 + b^3 = (a+b)(a^2 - ab + b^2)$$
$$a^3 - b^3 = (a-b)(a^2 + ab + b^2)$$

$$a^{m+n} = a^m a^n$$
$$a^{mn} = (a^m)^n$$
$$a^{\frac{m}{n}} = \sqrt[n]{a^m}$$
$$a^{-m} = \frac{1}{a^m}$$
$$a^m b^m = (ab)^m$$
$$\frac{a^m}{b^m} = \left(\frac{a}{b}\right)^m$$
$$a^0 = 1$$

$$\ln(ab) = \ln a + \ln b$$
$$\ln \frac{a}{b} = \ln a - \ln b$$
$$\ln a^b = b \ln a$$
$$\ln e = 1$$
$$\ln 1 = 0$$

$$\sin^2\alpha + \cos^2\alpha = 1$$
$$\sin(\alpha \pm \beta) = \sin\alpha\cos\beta \pm \cos\alpha\sin\beta$$
$$\cos(\alpha \pm \beta) = \cos\alpha\cos\beta \mp \sin\alpha\sin\beta$$
$$\sin 2\alpha = 2\sin\alpha\cos\alpha$$
$$\cos 2\alpha = \cos^2\alpha - \sin^2\alpha$$
$$1 + \cos\alpha = 2\cos^2\frac{\alpha}{2}$$
$$1 - \cos\alpha = 2\sin^2\frac{\alpha}{2}$$

**SLOŽENI KAMATNI RAČUN**

$$G_n = G\left(1 + \frac{p}{100}\right)^n; \qquad G = \frac{G_n}{(1 + \frac{p}{100})^n}; \qquad n = \frac{\ln\frac{G_n}{G}}{\ln\left(1 + \frac{p}{100}\right)}; \qquad p = \left(\sqrt[n]{\frac{G_n}{G}} - 1\right)\cdot 100$$

**S.K.R. SA ČEŠĆIM KAPITALISANJEM**

$$G_{mn} = G\left(1 + \frac{p}{100\cdot m}\right)^{m\cdot n}; \qquad G = \frac{G_{mn}}{(1 + \frac{p}{100\cdot m})^{m\cdot n}}; \qquad n = \frac{\ln G_{mn} - \ln G}{m\cdot\ln\left(1 + \frac{p}{100\cdot m}\right)}; \qquad \text{neprecizna k.s.} = \frac{p}{m}$$

**RAČUN ŠTEDNJE**

$$S_n = U\,q\,\frac{q^n - 1}{q - 1}; \qquad U = \frac{S_n\,(q-1)}{q\,(q^n - 1)}; \qquad n = \frac{\ln\left(1 + \frac{S_n\,(q-1)}{U\,q}\right)}{\ln q}; \qquad q = 1 + \frac{p}{100}$$

**OTPLATA DUGA**

$$R = D\,q^n\,\frac{q-1}{q^n - 1}; \qquad D = \frac{R\,(q^n - 1)}{q^n\,(q-1)}; \qquad n = \frac{\ln\frac{R}{R - D(q-1)}}{\ln q}; \qquad q = 1 + \frac{p}{100}$$

**KONFORMNA KAMATNA STOPA** $\left(1 + \frac{p_k}{100}\right)^s = 1 + \frac{p}{100}; \qquad p_k = \left(\sqrt[s]{1 + \frac{p}{100}} - 1\right)\cdot 100$

| INDEKSI | FORMULA | VEZA |
|---|---|---|
| BAZNI | $B_i = \frac{y_i}{y_b}\cdot 100$ | $B_i = \begin{cases} \frac{B_{i+1}}{V_{i+1}}\cdot 100, & i < b \\ 100\%, & i = b \\ \frac{B_{i-1}}{100}\cdot V_i, & i > b \end{cases}$ |
| VERIŽNI | $V_i = \frac{y_i}{y_{i-1}}\cdot 100$ | $V_i = \frac{B_i}{B_{i-1}}\cdot 100$ |

| | PROSEČNA STOPA RASTA/PADA |
|---|---|
| $\mathbf{y_i} \nearrow$ | $r_S = \left(\sqrt[n-1]{\frac{y_{\max}}{y_{\min}}} - 1\right)\cdot 100$ |
| $\mathbf{y_i} \searrow$ | $p_S = \left(\sqrt[n-1]{\frac{y_{\min}}{y_{\max}}} - 1\right)\cdot 100$ |
| INAČE | $rp_S = \frac{1}{n-1}\sum_{i=2}^{n}(V_i - 100)$ |

| ARITMETIČKI NIZ | GEOMETRIJSKI NIZ |
|---|---|
| $n \in \mathbb{N}$ | $n \in \mathbb{N}$ |
| $a_n = a_1 + (n-1)d$ | $a_n = a_1 q^{n-1}$ |
| $S_n = a_1 n + \frac{n(n-1)}{2} d$ | $S_n = a_1 \frac{q^n - 1}{q - 1}$ |
| $n = \frac{a_n - a_1}{d} + 1$ | $n = \frac{\ln\left(1 + \frac{S_n \cdot (q-1)}{a_1}\right)}{\ln q}$ |

| PRIVR. F-JE | UKUPNIH | PROSEČNIH |
|---|---|---|
| **PRIHODA** | $P(p) = p \cdot x(p);\ P(x) = x \cdot p(x)$ | $\overline{P}(x) = \frac{P(x)}{x}$ |
| **TROŠKOVA** | $C(x)$ | $\overline{C}(x) = \frac{C(x)}{x}$ |
| **DOBITI** | $D(x) = P(x) - C(x)$ | $\overline{D}(x) = \frac{D(x)}{x}$ |

**ELASTIČNOST** FUNKCIJE $y(x)$: $E_{y(x),x} = \frac{x}{y(x)} \cdot y'(x)$

**BINOMINI OBRAZAC:** $(a+b)^n = \sum_{k=1}^{n} \binom{n}{k} a^k b^{n-k} = \sum_{k=1}^{n} \binom{n}{k} a^{n-k} b^k$

$P_n = n!$; $\bar{P}_n^{k_1,\ldots,k_l} = \frac{n!}{k_1! \cdot \ldots \cdot k_l!}$; $V_n^k = n(n-1) \cdot \ldots \cdot (n-k+1)$; $\bar{V}_n^k = n^k$; $C_n^k = \binom{n}{k}$

$$c' = 0$$
$$(x^a)' = a x^{a-1}\ (a \neq 0)$$
$$(\sin x)' = \cos x$$
$$(\cos x)' = -\sin x$$
$$(\mathrm{tg}\, x)' = \frac{1}{\cos^2 x}$$
$$(\mathrm{ctg}\, x)' = -\frac{1}{\sin^2 x}$$
$$(a^x)' = a^x \ln a\ (a > 0)$$
$$(e^x)' = e^x$$
$$(\log_a x)' = \frac{1}{x \ln a}\ (a > 0, a = 1, x > 0)$$
$$(\ln x)' = \frac{1}{x}\ (x > 0)$$
$$(\arcsin x)' = \frac{1}{\sqrt{1-x^2}}\ (|x| < 1)$$
$$(\arccos x)' = -\frac{1}{\sqrt{1-x^2}}\ (|x| < 1)$$
$$(\mathrm{arctg}\ x)' = \frac{1}{1+x^2}$$
$$(\mathrm{arcctg}\ x)' = -\frac{1}{1+x^2}$$